

APPARATUS FOR IN-SITU OPTICAL ENDPOINTING ON WEB-FORMAT  
PLANARIZING MACHINES IN MECHANICAL OR CHEMICAL-MECHANICAL  
PLANARIZATION OF MICROELECTRONIC-DEVICE SUBSTRATE  
ASSEMBLIES AND METHODS FOR MAKING AND USING SAME

ABSTRACT OF THE DISCLOSURE

Polishing pads, planarizing machines and methods for mechanical and/or chemical-mechanical planarization of microelectronic-device substrate assemblies. The polishing pads, for example, can be web-format pads, and the planarizing machines can be web-format machines. In a typical application, the web-format machines have a pad advancing mechanism and stationary table with a first dimension extending along a pad travel path, a second dimension transverse to the first dimension, and an illumination site from which a laser beam can emanate from the table. The pad advancing mechanism moves the pad along the pad travel path to replace worn portions of the pad with fresh portions. In one embodiment of the invention, a web-format polishing pad includes a planarizing medium and an optical pass-through system having a plurality of view sites through which a light beam can pass through the pad. The planarizing medium can have a planarizing surface configured to engage the substrate assembly and a backside to face towards the table. The view sites of the optical pass-through system extend along the pad in a direction generally parallel to the pad travel path so that a view site is aligned with the illumination site on the table as the pad moves across the table.